INL News Release
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NEWS MEDIA CONTACT:
Teri Ehresman, (208) 520-6252, Send E-mail (at the Kennedy Space Center with INL project leaders)
John Walsh, (208) 526-8646, Send E-mail (in Idaho Falls)
Lou Riepl (208) 334-9574, Send E-mail (in Boise)

Idaho National Laboratory plays key role in upcoming science mission to Pluto

Engineers and technicians at the U.S. Department of Energy's Idaho National Laboratory are watching final preparations for the launch of the New Horizons mission to Pluto and its moon, Charon, with particular interest. That's because they played a little-known, yet key, role in making the ambitious scientific expedition possible.

The employees have spent the past two years preparing a facility and then building the radioisotope thermoelectric generator (RTG) – the power system or "space battery" that provides the uninterrupted and reliable source of electricity the New Horizons probe will require in the remote and harsh environment of deep space.

"This launch is a huge accomplishment for the Department of Energy, state of Idaho and our INL family," said Stephen Johnson, manager of the RTG program. "Workers will be able to look back 10 years from now when images are being received from the first mission to the last planet and say to their grandchildren, 'I built that right here in Idaho.' "

The project involved almost 80 employees over the past two years. The technicians, engineers, quality assurance and health physics professionals, technical writers, trainers, mechanics, electricians, facility and project managers all helped INL complete the project by the October deadline required by NASA.

The new 10,000-square-foot Space and Security Power Systems Facility was started and completed in 2004 to house the INL work. The building is located at the Materials and Fuels Complex, formerly known as Argonne National Laboratory-West. INL workers started training on the project in October 2004, with the actual battery assembly work taking place from April to October 2005.

The completed RTG power system was shipped to Kennedy Space Center on schedule in early November 2005. Since then, several INL employees have been supporting day-to-day operations in Florida in preparation for the launch.

The RTG will provide power to the New Horizons spacecraft and seven onboard scientific experiments. The heat generated by the radioactive decay of nuclear material is converted into electricity by solid-state thermocouples. RTG power systems, which have been used by NASA for nearly 40 years, enable spacecraft to operate at significant distances from the sun or in environments where solar power systems would not be feasible.

The launch window for New Horizons opens on Jan. 17, according to NASA. New Horizons will cross the entire span of the solar system – in record time – and conduct fly-by studies of Pluto and its moon in 2015. For more details on the New Horizons mission, visit the NASA Web site at http://www.nasa.gov.

The RTG power systems work is just one of several NASA projects supported by INL. The laboratory also performs safety analysis in support of NASA's missions and is involved in studying possible additional applications of nuclear energy for space exploration.

Meanwhile, work continues on other space-related projects. INL employees are already retooling for the next big NASA mission, the Mars Scientific Lander, which is slated for a September 2009 launch.

Idaho National Laboratory is one of the Department of Energy's 10 multiprogram national laboratories. The laboratory performs work in each of the strategic goal areas of DOE – energy, national security, environment and science. INL is the nation's leading center of nuclear energy research and development. Day-to-day management and operation of the laboratory is the responsibility of Battelle Energy Alliance.

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